bbts brighton 3-5 oct '18

Pathology Modernisation - implications for the diagnostic laboratory

Professor Adrian Newland,
Chair, Pathology Productivity Optimisation and Implementation Board,
NHSI Operational Productivity

British Blood Transfusion Society | #BBTS2018

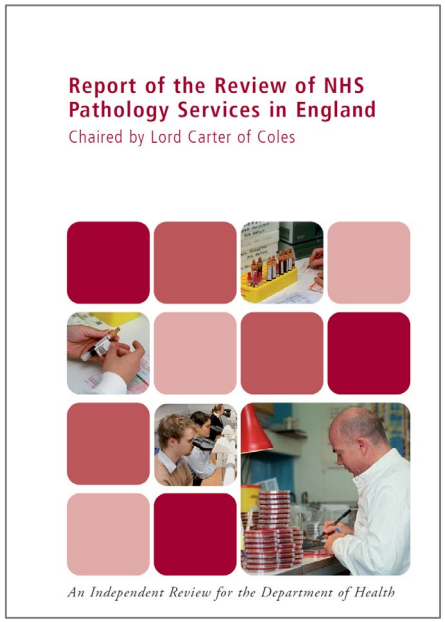
Disclosures

- Acted as a consultant for Amgen, Angle, Argenx, Dova, Novartis, Rigel and Shionogi
- Participated in advisory boards and/or as a speaker at medical education events sponsored by Amgen, Argenx, Novartis and Ono.
- Received research support from Amgen, GSK and Novartis

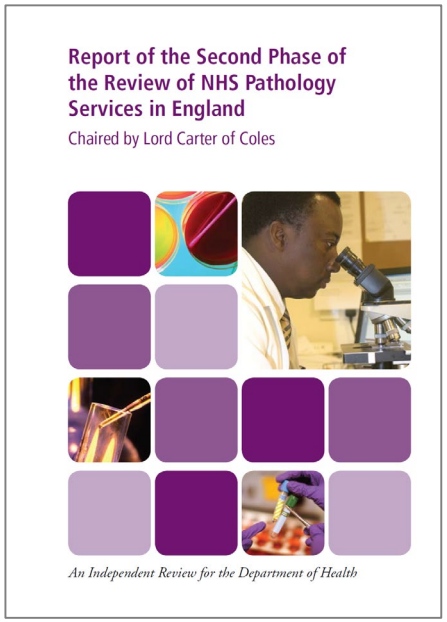
The Next Step in a 10+ year Journey

NHS Improvement

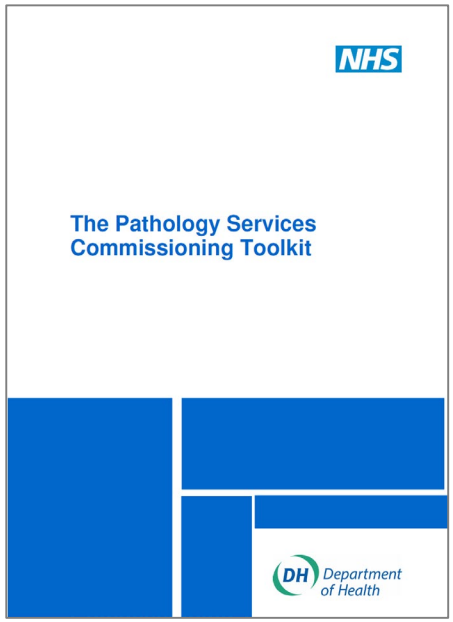
2006



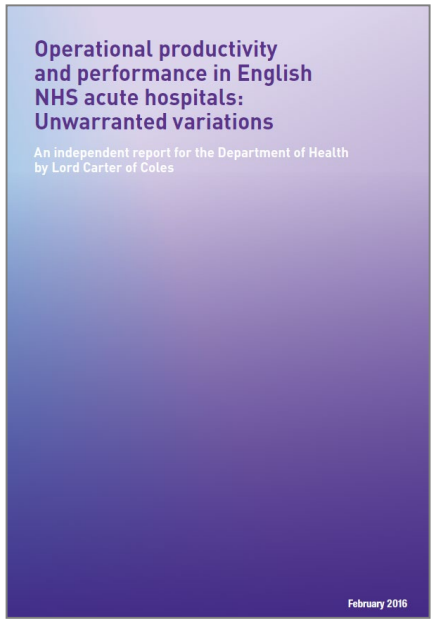
2008

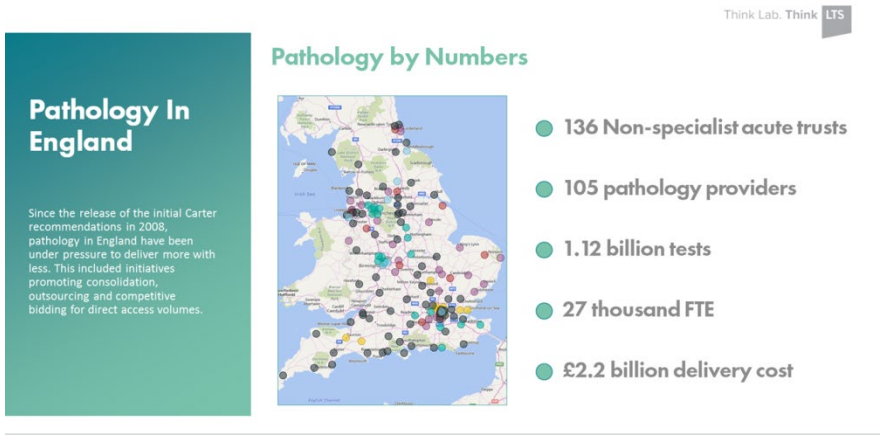


2012



2016



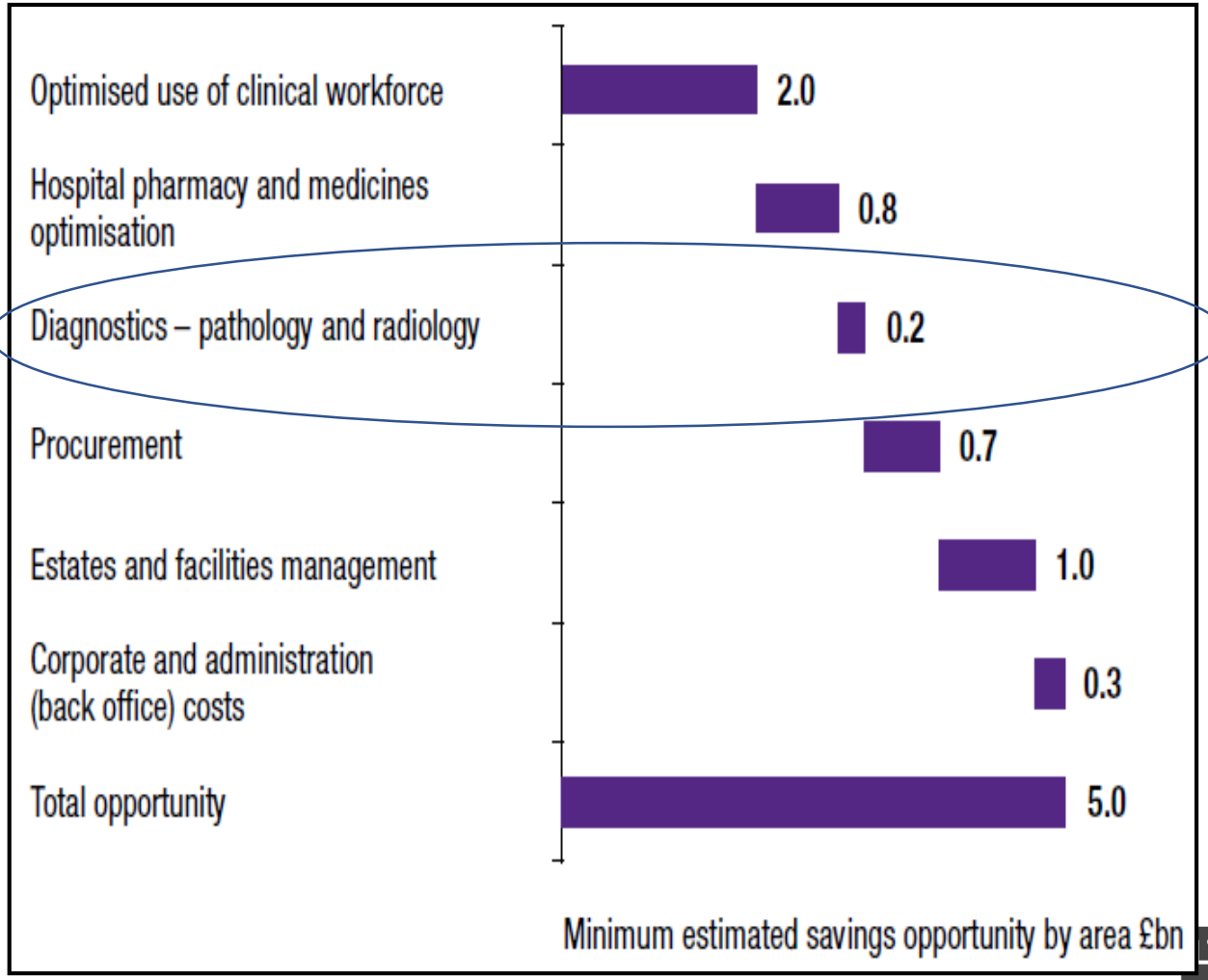


Results : The Carter review

NHS Improvement

The opportunity

- Report saw £5bn of value opportunity 2020-21, if unwarranted variation removed.
- Operational Productivity Directorate in NHSI to deliver report's recommendations 09.16)



Overview of the final report: £5bn savings

15 recommendations involving:

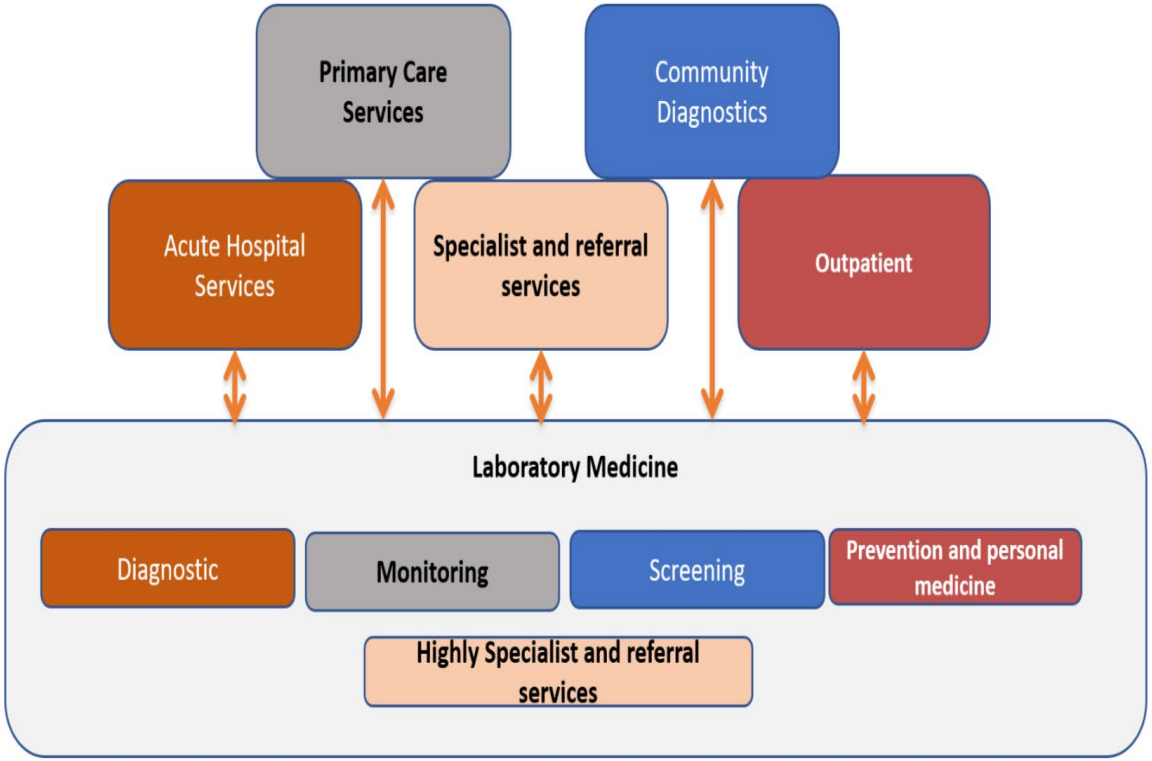
- Optimising application of clinical resources
- Optimising use of non-clinical resources
- Quality & efficiency throughout care pathway
- Implementation & engagement with trusts

Pathology

NHS Improvement

Covers all healthcare across prevention, screening, monitoring and diagnosis from before conception until post mortem. All with appropriate clinical and scientific support for local clinical teams.

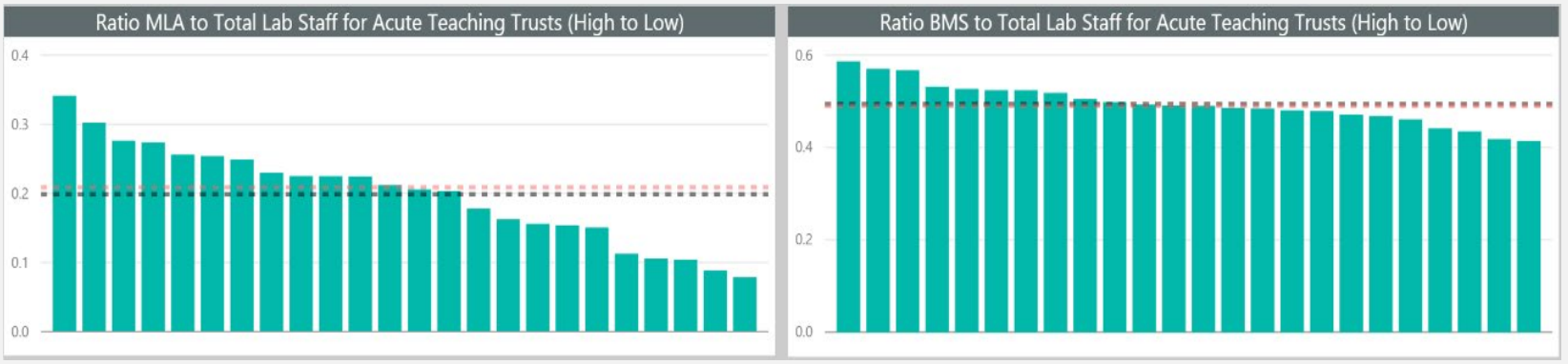
- **Clinically lead service**. Every result issued has been monitored, reviewed or commented upon by a medical clinician or state registered (via HCPC) Biomedical or Clinical Scientist.
- **Integrated access** to sub-specialty expertise available for community, primary, secondary and tertiary at a single touch point. Scientists all have a sub-speciality training, and have an active role in many specialist MDT meetings.
- **Accreditation and quality assurance** integral to service delivery. Pathology in the UK has lead the way in clinical accreditation for more than 20 years. UK system is the basis of the current international accreditation standard.
- Keen **technology adopters.** Moving academic and novel technologies into routine, safe, clinical practice.



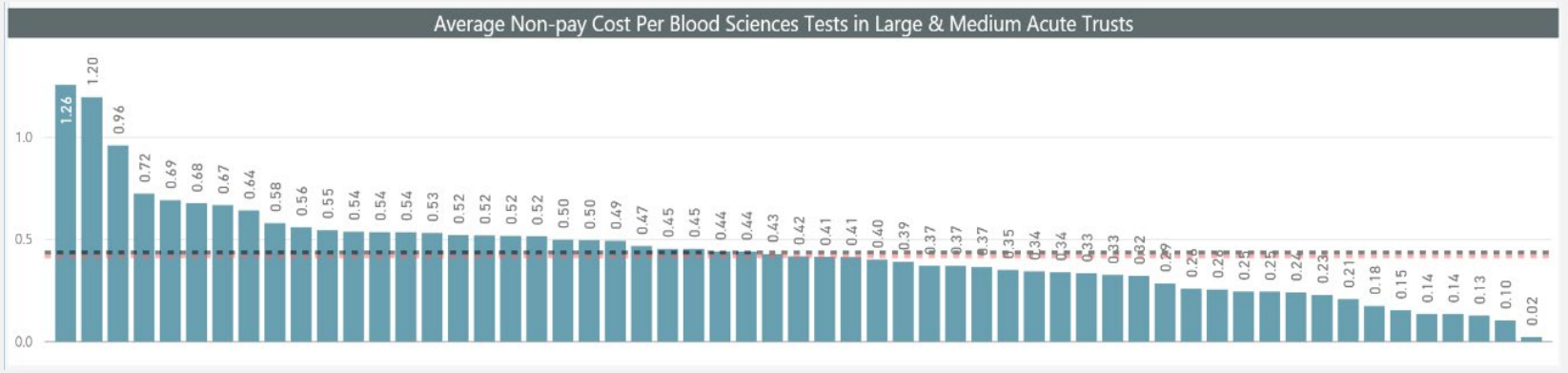
Pathology Under the Microscope

NHS Improvement

Variation In Use Of MLA And BMS Staff In Acute Teaching Trusts



Average Non-Pay Cost Per Blood Sciences Test For Large And Medium Acute Trusts



Data insights – Total costs

NHS Improvement

£2.14bn
Total Cost

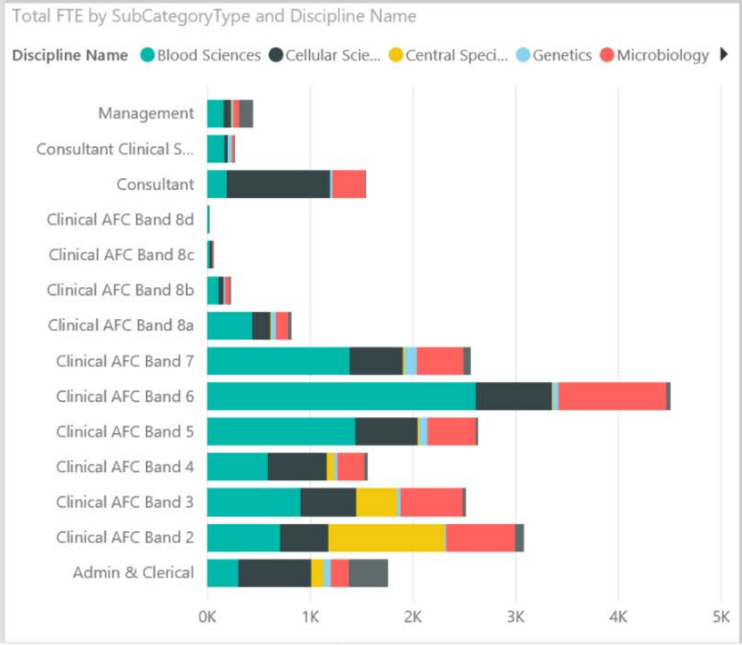
24.85K
Total FTE

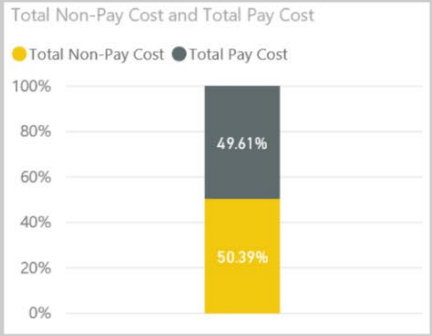
1.09bn
Total Tests

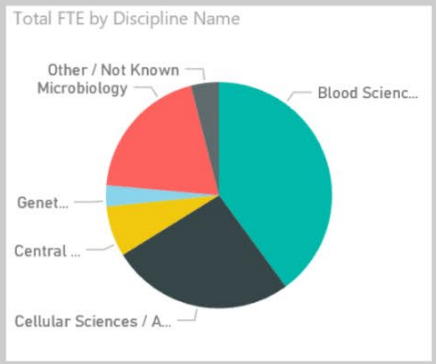
Trust Name
All

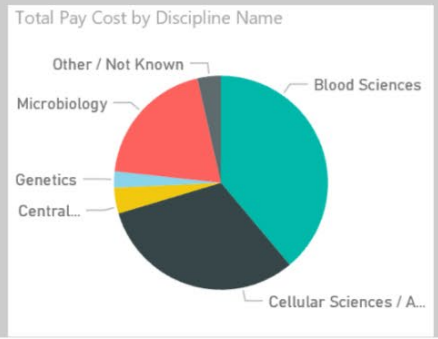
Discipline Name
- Blood Sciences
- Cellular Sciences / Anatomical Pathology

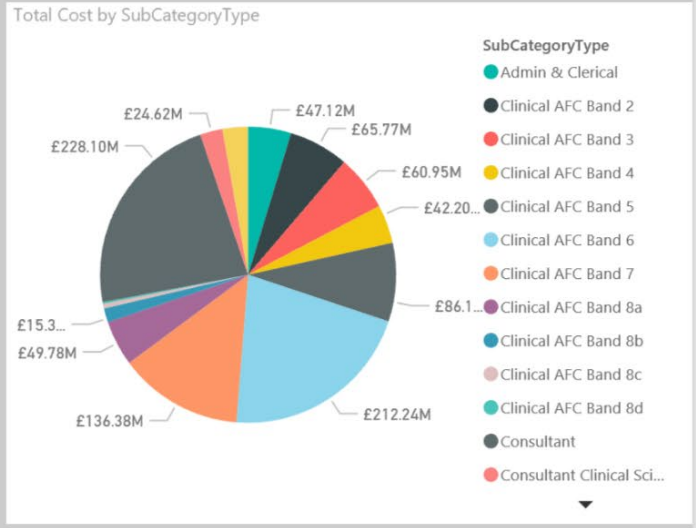
Staff Category Name	Total FTE	Total Cost
Agency	535.08	£40,789,445
Bank	177.04	£6,653,015
Substantive	24,137.13	£1,012,324,879
Total	**24,849.24**	**£1,059,767,339**

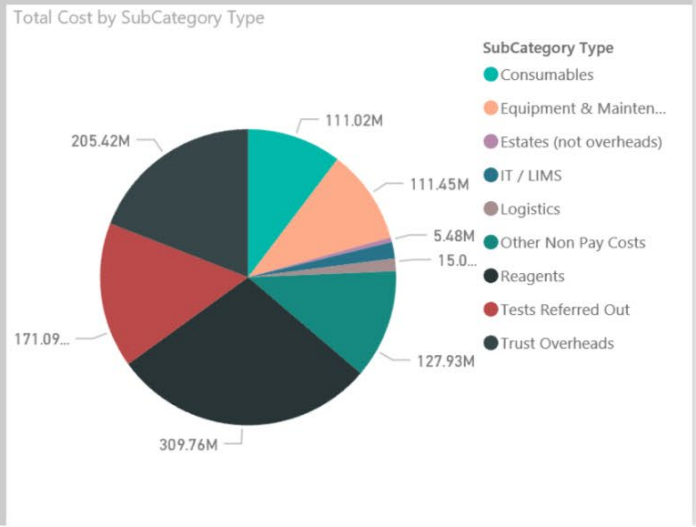












Rationale for Networks & Consolidation

NHS Improvement

- Drives up clinical quality, better for patients
  - Faster turnaround times
  - Better access to sub-specialty expertise
  - Access to new technology
  - Reduces risk of “postcode lottery”
- Improves service resilience
- Economies of scale
  - Purchasing power for equipment, IT systems and consumables
  - Better utilisation of expensive capital equipment
  - Concentration of expertise
- Nationally excess capacity, yet locally workforce shortages
  - Networking across wider geographies provides a solution to localised recruitment challenges

Improving the quality and value of NHS pathology services

NHS Improvement

122 Pathology providers

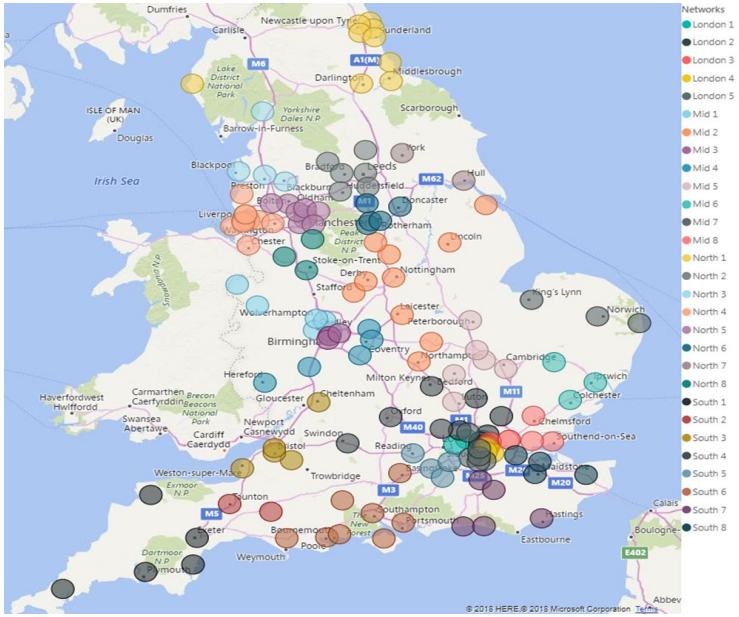
Workforce of 25 thousand

Processing 1.1 billion tests per year

£2.1 billion delivery cost

Data shows +£200m efficiency saving

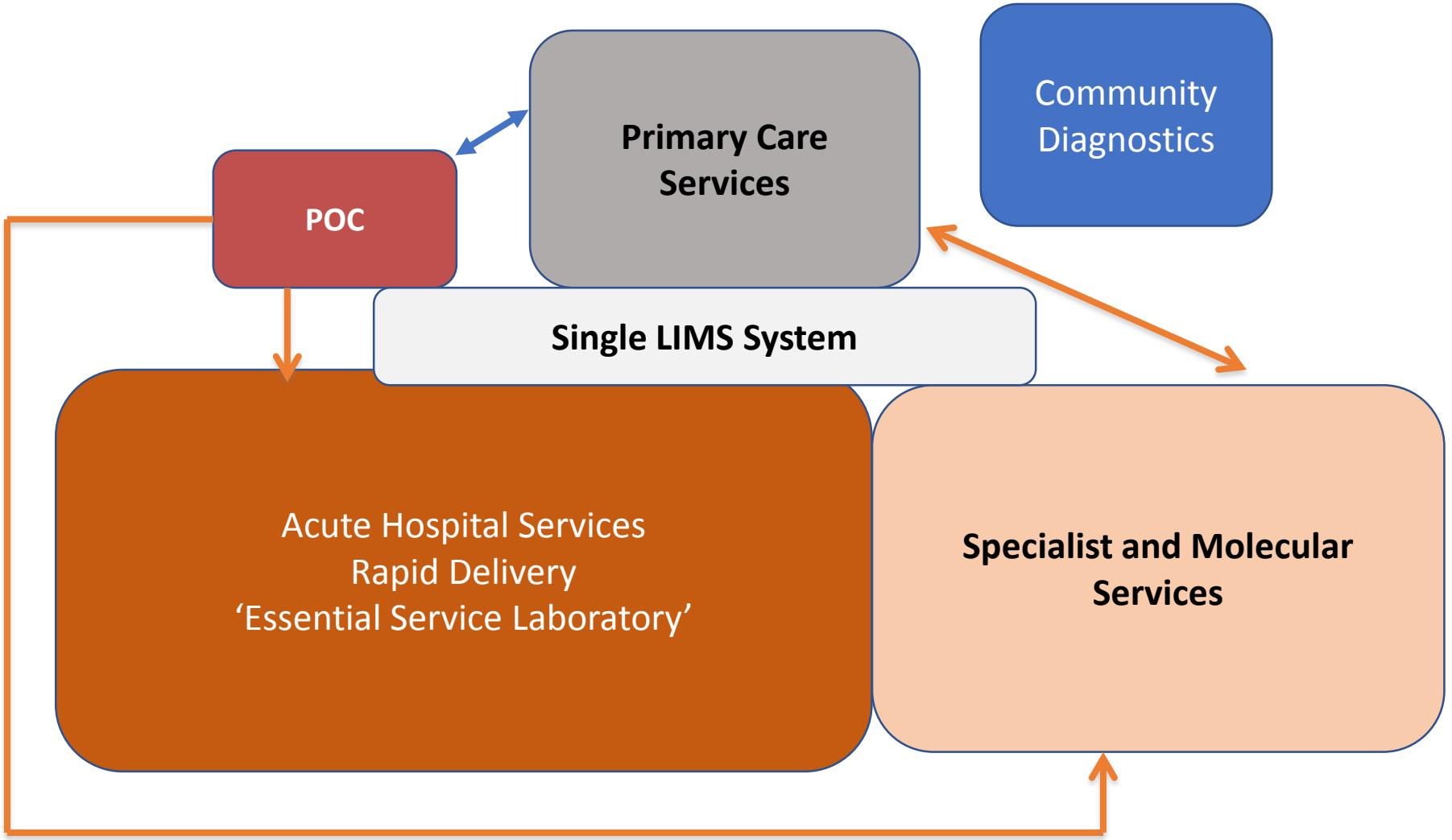
NHS Improvement is working with trusts to move towards 29 pathology networks across England



- **Pathology is essential in over 70% of patient pathways.**
- High quality services, delivering timely results for patients, will also support national priorities in genomics, cancer care and integrated healthcare
- Currently there is **national excess capacity in equipment**, yet we are seeing **local workforce shortages**
- **Variation** of non-pay costs in routine testing from **2p to £1.26 per test**
- **Networking at scale** allows for better value, better utilisation of capital equipment, faster turn around times where required and more **opportunities for the workforce to undertake extended roles**.
- NHS Improvement is engaging with the sector, with **strong support for the hub and spoke (ESL) model**

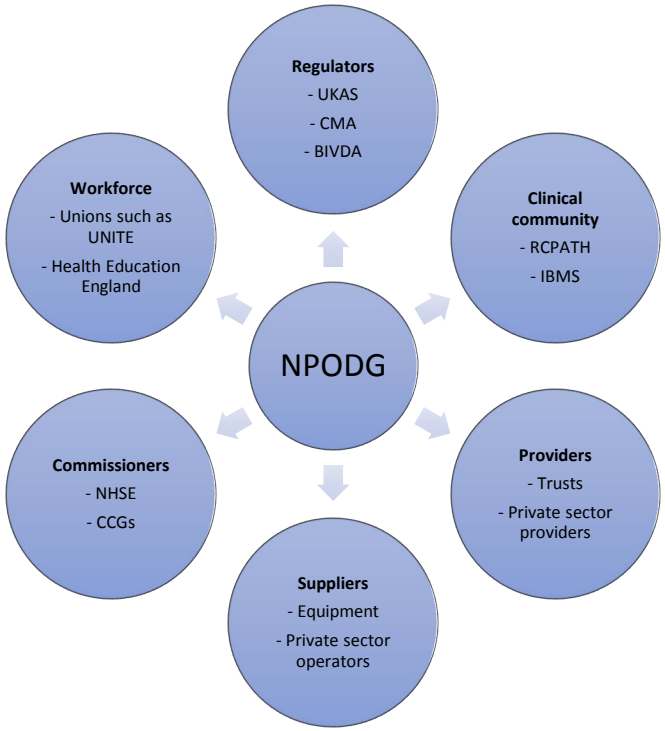
By next year, the networks need to be operational and starting to deliver these quality and efficiency improvements.

Pathology Configuration



Networks & Consolidation with engagement

The programme is working in true partnership with the clinical and scientific community to deliver the right test, with the right advice at the right time – utilising the right approach and technology via the National Pathology Delivery group (NPODG)
We are working with other colleagues in legal, procurement, finance. In addition with are also aligned and contributing to national programmes for example Genomics, AMR, sepsis and digital / AI with NHS England, Public Health, and Office of Life Science



The benefits are:

- Driving up clinical quality, better for patient outcomes
  - Faster turnaround times
  - Right testing available at the right time.
  - Better access to sub-specialty expertise
  - Access to new technology
- Improving service resilience
- Efficient use of highly skilled staff. Right role, right person.
- Economies of scale and purchasing – linking into the current NHS Improvement Procurement teams and Category Tower provider using the NPODG to set the clinical standard and requirements for national purchasing
- National excess equipment capacity, yet workforce shortages
  - Networking across wider geographies provides a solution to localised recruitment challenges and development of advance scientific roles.

Essential Services Laboratory

NHS Improvement

Principles

The provision of laboratory services for the acute setting is vital to ensure safe patient care. We have developed a tool kit that describes the minimum service that should be available. ESL that vary from this toolkit should be justified using clinical evidence, or robust data to demonstrate efficient use of resources.

The ESL

- **Only the services needed to provide acute pathology provision should be commission in an ESL**. All other work should be performed in the hub laboratory.
- Meet all regulatory and accreditation standards (MRHA, UKAS, HSE).
- Have a clear **clinical and operational governance link to the Hub.**
- Have a clear management structure.
- **True interoperability with the Hub**, with a single LIMS or full IT integration, common platforms and procedures.
- **Full 24/7 rota**, multidisciplinary assistant grades, aspiration towards multidisciplinary Biomedical Scientists.
- Have clear **training strategy** that is harmonised with the Hub laboratory, provided by staff supernumerary to the ESL.
- Have agreed performance metrics, service specification. **Variation only where it is warranted.**

What does good look like	
Clinical Governance	• **Clear leadership** • **Clear escalation points for local issues**
LIMS	• **Integration and full interoperability**
Logistics	• **Harmonised with Hub** • **Timely**
Quality	• **Provided by Hub** • **ISO 15189** • **MHRA**
Training	• **Supported by the Hub, delivered across the network** • **Full rotation of staff**
Business continuity	• **Clear robust, tested plans.** • **POC and emergency procedures.**
Implementation	• **Step change implementation, involving quality assessments and review**

improvement.nhs.uk/resources/pathology-networks-toolkit/

Guide to the staffing structure in an ESL

NHS Improvement

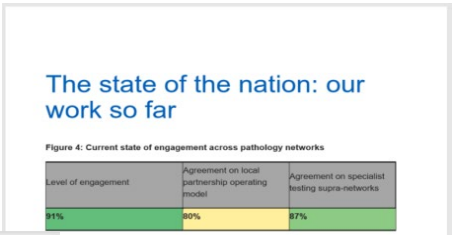
Shifts per annum and required number of FTEs based on a workload of 1500 samples per day in an ESL

Staff	Shifts per annum	Required FTEs
Bands 2 to 4	**1,854**	**8.1**
Bands 5 and 6	**3,285**	**14.3**
Band 7	**759**	**3.3**
Lab supervisor	**253**	**1**
Total		**26.7**

The guide assumes no multidisciplinary working. Efficiency gains could be made by introducing multidisciplinary scientists into an ESL. For example, many biomedical scientists in ESLs are cross-trained in both haematology and blood transfusion representing an opportunity for further efficiencies to this model.

State of the Nation

NHS Improvement



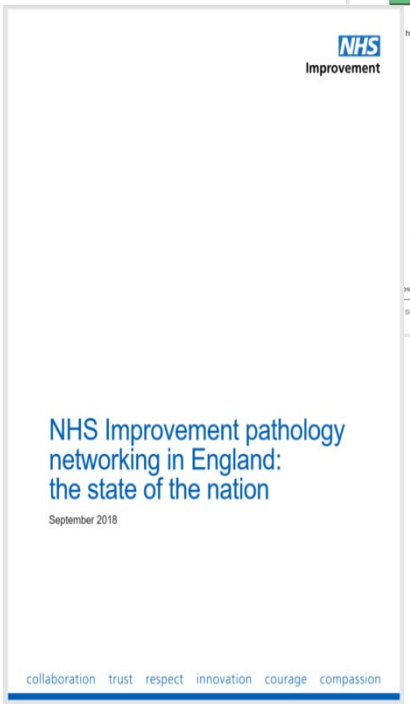
The state of the nation: our work so far

Figure 4: Current state of engagement across pathology networks

Level of engagement	Agreement on local partnership operating model	Agreement on specialist testing supra-networks
91%	80%	87%

have developed and are continuing to develop the following forms of support.

- **Twenty-nine pathology networks:** All the networks are making progress, and many are appointing programme directors. We expect trusts to move promptly to consolidate services.
- **Toolkits:** We have created and continue to develop a range of tools and advice on clinical and corporate structures including key documents on due diligence and governance models These are available on our Improvement Hub[1] and include:
  - business case template
  - due diligence guide
  - operational governance guide

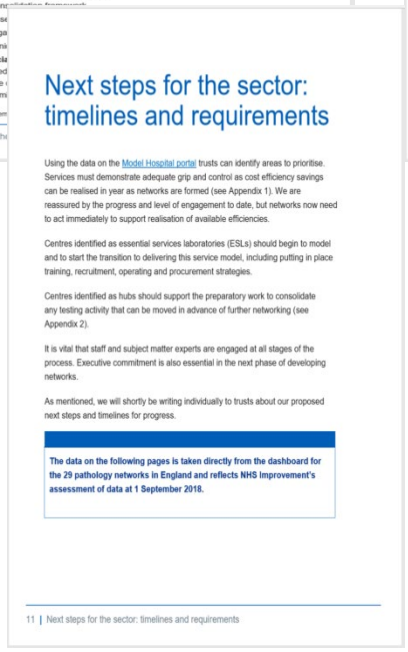


NHS Improvement

NHS Improvement pathology networking in England: the state of the nation

September 2018

collaboration trust respect innovation courage compassion



Next steps for the sector: timelines and requirements

Using the data on the Model Hospital portal trusts can identify areas to prioritise. Services must demonstrate adequate grip and control as cost efficiency savings can be realised in year as networks are formed (see Appendix 1). We are reassured by the progress and level of engagement to date, but networks now need to act immediately to support realisation of available efficiencies.

Centres identified as essential services laboratories (ESLs) should begin to model and to start the transition to delivering this service model, including putting in place training, recruitment, operating and procurement strategies.

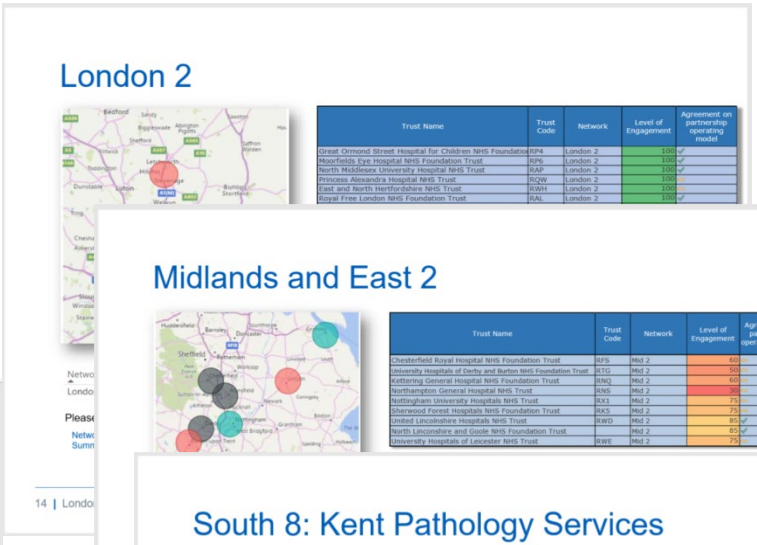
Centres identified as hubs should support the preparatory work to consolidate any testing activity that can be moved in advance of further networking (see Appendix 2).

It is vital that staff and subject matter experts are engaged at all stages of the process. Executive commitment is also essential in the next phase of developing networks.

As mentioned, we will shortly be writing individually to trusts about our proposed next steps and timelines for progress.

The data on the following pages is taken directly from the dashboard for the 29 pathology networks in England and reflects NHS Improvement's assessment of data at 1 September 2018.

11 | Next steps for the sector: timelines and requirements



London 2

Trust Name	Trust Code	Network	Level of Engagement	Agreement on partnership operating model
Great Ormond Street Hospital for Children NHS Foundation	RP4	London 2	100	✓
Moorfields Eye Hospital NHS Foundation Trust	RP6	London 2	100	✓
North Middlesex University Hospital NHS Trust	RAP	London 2	100	✓
Princess Alexandra Hospital NHS Trust	RQW	London 2	100	✓
East and North Hertfordshire NHS Trust	RWH	London 2	100	✓
Royal Free London NHS Foundation Trust	RAL	London 2	100	✓

14 | Londo

Midlands and East 2

Trust Name	Trust Code	Network	Level of Engagement	Agreement on partnership operating model
Chesterfield Royal Hospital NHS Foundation Trust	RFS	Mid 2	60	
University Hospitals of Derby and Burton NHS Foundation Trust	RTG	Mid 2	50	
Kettering General Hospital NHS Foundation Trust	RNQ	Mid 2	60	
Northampton General Hospital NHS Trust	RNS	Mid 2	30	
Nottingham University Hospitals NHS Trust	RX1	Mid 2	75	
Sherwood Forest Hospitals NHS Foundation Trust	RXS	Mid 2	75	
United Lincolnshire Hospitals NHS Trust	RWD	Mid 2	85	✓
North Lincolnshire and Goole NHS Foundation Trust		Mid 2	85	✓
University Hospitals of Leicester NHS Trust	RWE	Mid 2	75	

South 8: Kent Pathology Services

Trust Name	Trust Code	Network	Level of Engagement	Agreement on partnership operating model
Dartford and Gravesham NHS Trust	RN7	South 8	100	✓
East Kent Hospitals University NHS Foundation Trust	RVV	South 8	100	✓
Maidstone and Tunbridge Wells NHS Trust	RWF	South 8	100	✓
Medway NHS Foundation Trust	RPA	South 8	100	✓

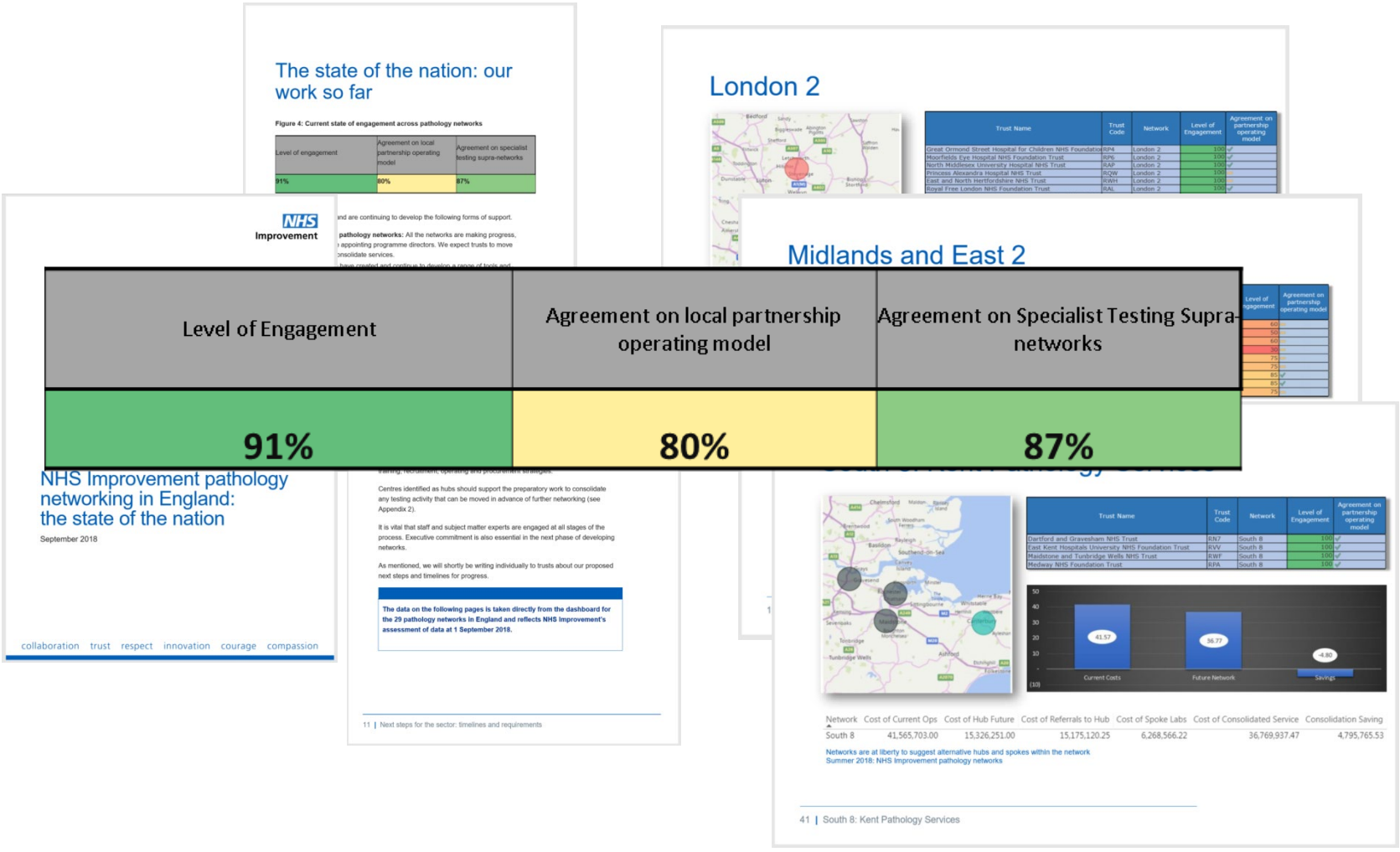
Network	Cost of Current Ops	Cost of Hub Future	Cost of Referrals to Hub	Cost of Spoke Labs	Cost of Consolidated Service	Consolidation Saving
South 8	41,565,703.00	15,326,251.00	15,175,120.25	6,268,566.22	36,769,937.47	4,795,765.53

Networks are at liberty to suggest alternative hubs and spokes within the network
Summer 2018: NHS Improvement pathology networks

41 | South 8: Kent Pathology Services

State of the Nation

NHS Improvement



State of the Nation

NHS Improvement

"In September 2017 we signalled to all acute hospital trusts in England that they would need to change how they work and collaborate to drive out unwarranted variation in pathology services.

The first tranche of pathology networks is fully operational, and we expect a third of all the networks to be fully operational by the end of this financial year, with the rest to follow by 2021."

"To meet this deadline, there is much to do. We need to scale up from the one in five pathology networks that are operational today, to at least a third by the end of 2018/19.

The formation of pathology networks is a core part of implementing national policy on improving quality and productivity. NHS Improvement will continue to support and guide the development of these networks, ensuring that services are safe, effective, caring, and responsive. We will work with trusts in networks yet to become operational to jointly agree milestones, establish what extra support they need and ensure local leadership (across trusts and commissioners) is in place to complete or network becoming operational."

Next steps for the sector

- It is important that networks are progressed at pace.
- Actions to support realisation of efficiencies, available immediately, should be taken now.
- Centres that have been identified as Essential Services Laboratories should begin to model the transition to delivering this service model.
- Centres identified as hubs should be supporting the preparatory work to consolidate any testing activity that can be moved in advance of further networking.
- It is vital that staff and subject matter experts are engaged at all stages of the process, executive commitment is also essential in the next phase of developing networks.

What Good Looks Like

Clinical Leadership: Clinical team must take responsibility for delivering a high quality, appropriate but cost effective service and manage the relationship between pathology and other clinical disciplines.

Partnership Model: Informal networks are unable to agree and deliver change fast enough, and have under-developed management structures for effective clinical governance.

Executive Participation: Board support, coupled with strong, experienced leadership is critical to the success of any consolidation project.

Customer Service: The need for a strong customer focus, supported by the appropriate clinical staff and infrastructure, is essential within any large organisation, including pathology, whether public or private.

Procurement: Procurement continue to deliver cost savings through better contracting and a more competitive market place. However, standardising the procurement process and building on best practices will save significant time and effort and improve the comparability and management of contracts.

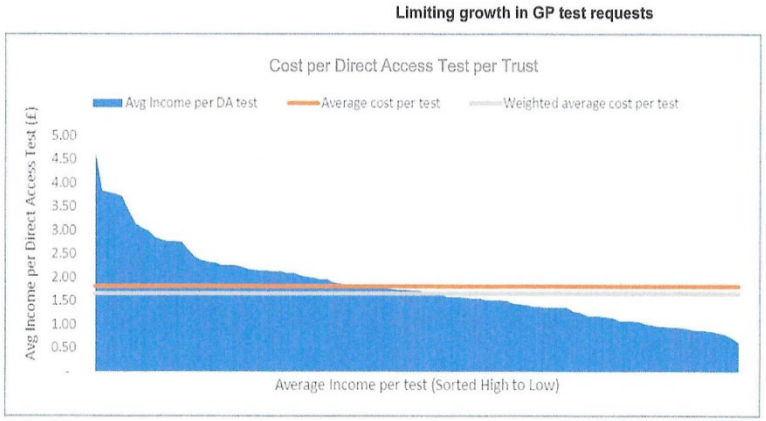
IT: A standard LIMS (Laboratory Information Management System) is a key enabler for pathology consolidation. Of equal importance is a dedicated IT team that can manage and optimise the various systems.

Working with GIRFT:

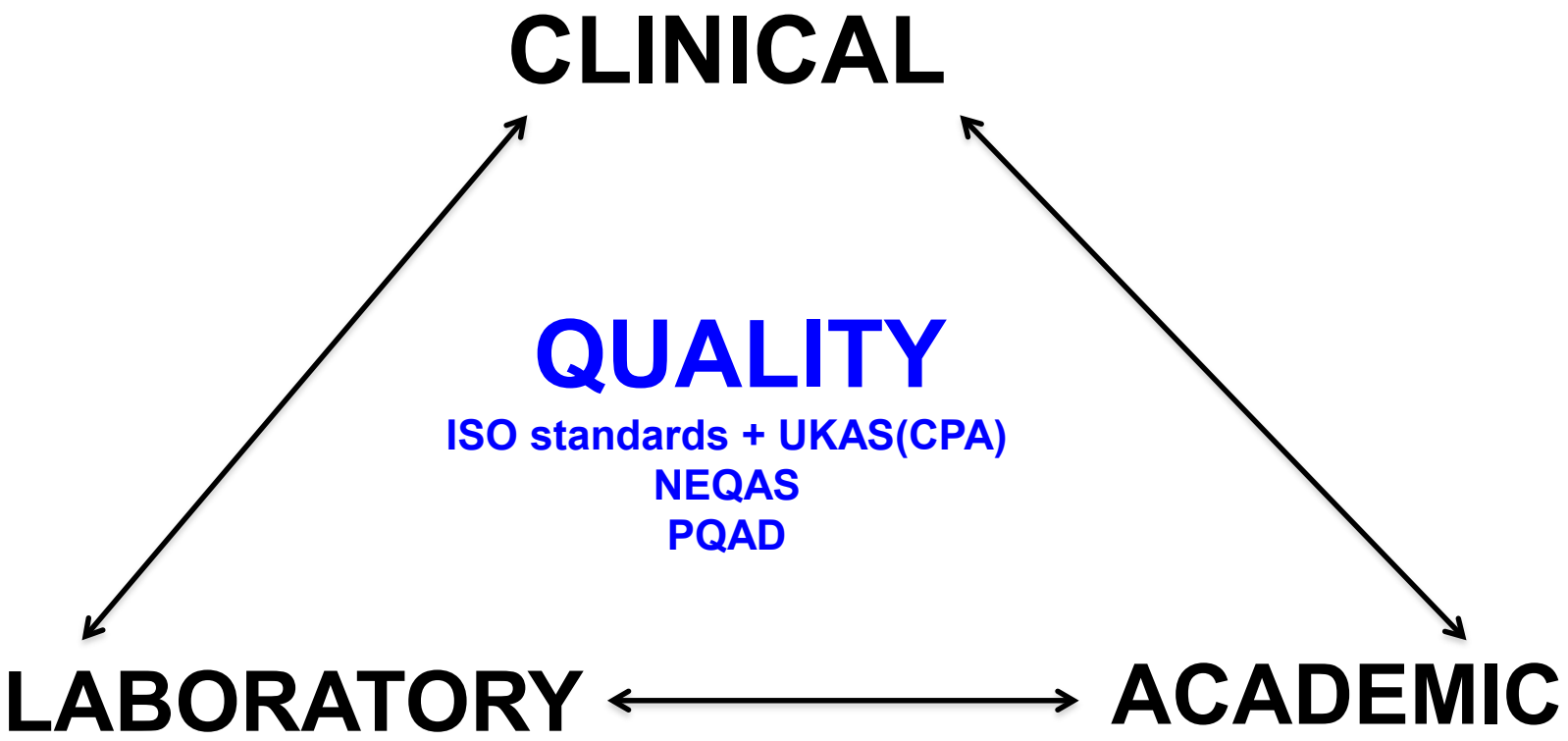
Demand optimisation aims to deliver additional value in two ways:

1. By ensuring that only appropriate tests are requested
2. By recommending different analysis that will provide additional insight and

Impact on the quality and cost of patient care



A Quality Service



Pathology Quality Assurance Dashboard

NHS Improvement

- This is a tool for individual Trusts to assess and manage the benefit Pathology services can deliver. It is not a contractual tool to manage the service.

- Timely collection of appropriate data. To give Trust Board visibility of system wide metrics that Pathology has an impact on. The aim is to support national initiatives.

- Collecting data in one place, once. Benchmarking performance to continuously drive improvement.

- Looking to include metrics for Innovation and Training to support long term sustainability of workforce and adopting advance and innovative roles.

- Potential to propose KPIs initially where national targets do not exist.

Specialist Testing

- Specialist Trusts have been mapped into networks, however, we are aware of the supra-regional and national impact some of services have.

- Formation of a board sub-committee to investigate the opportunity and approach.

- Defining attributes of specialist services to support: -

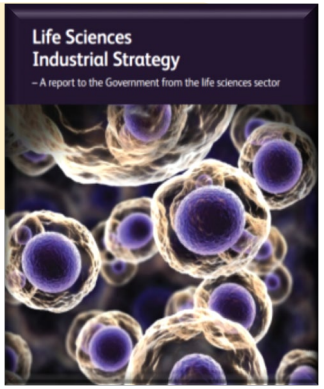
    - Training / Succession
    - Clinical Pathways - Providing greater access to more patients
    - Innovation and translational development
    - Development of accepted standards, protocols, and national leadership
    - Diagnostic pathway optimisation

National Funding Opportunities

NHS Improvement

UK Life Science strategy

- NHS Improvement inputting into the delivery of this national strategy.
- NHS Improvement influencing competition success criteria to ensure funding to aligned to organisations that can deliver adoption at scale to benefit patients and the wider UK PLC



National Funding

Forty NHS hospitals and community services will get £760 million to modernise and transform their buildings and services in the year of the NHS's 70th birthday. Included in this are a number of pathology programmes supporting the national configuration of pathology services into 29 Networks across England.

- Up to £31.2 Million for Lancashire and South Cumbria Pathology Collaboration.
- Up to £2 million for West Yorkshire National Pathology Exchange.
- Up to £9 million for Black Country Pathology.
- Up to £19.3 million for Sussex and East Surrey pathology hub and laboratory information management system.

This funding recognises the progress made by these organisations towards implementation of their pathology network and underlines the importance for pathology services to consolidate at pace to realise the efficiency for greater patient benefit.

Carter Efficiency Capital

- Awaiting on HMT for agreement on £50m funding for Diagnostics.

Cancer Boards

- NHSI Teams building an understanding to support networks in accessing funds associated with regional cancer boards.
- Supporting business cases and benefit models

What are the pitfalls for Blood Transfusion?

- **IT and interoperability**

  NHS Digital

- **Staffing**; Vacancies, recruitment and retention

  HEE

- **Funding**

  Access to National Funding sources

NHS Improvement

Questions?